Continuous lateral oscillations as a core mechanism for taxis in Drosophila larvae

Continuous lateral oscillations as a core mechanism for taxis in *Drosophila* larvae

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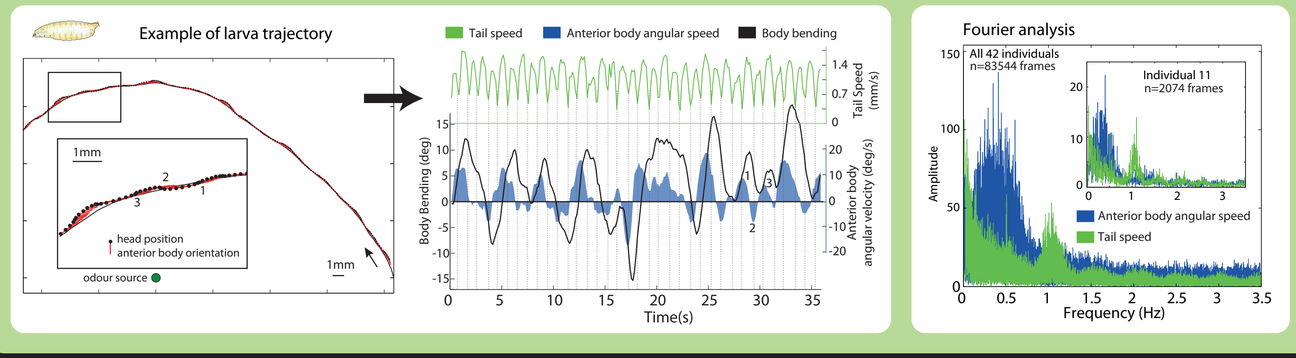
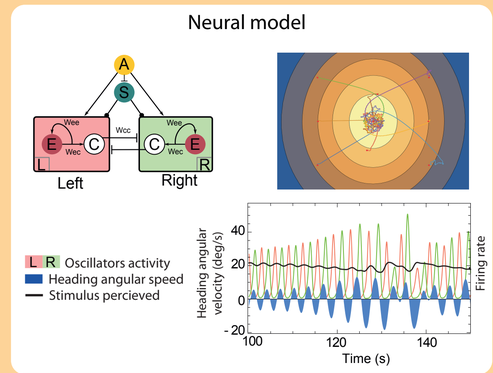
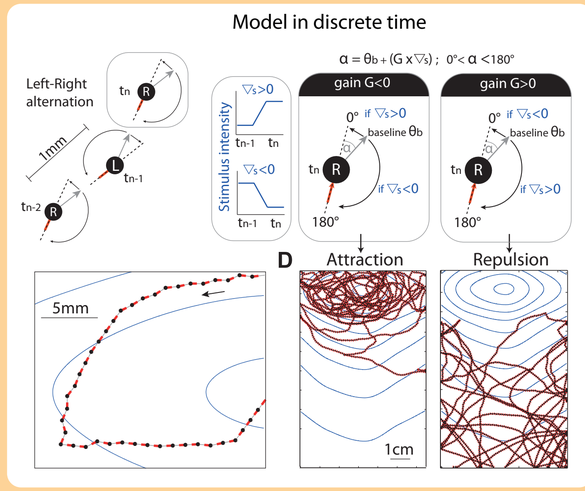
Larvae exhibit continuous rhythmical alternations between left and right turns

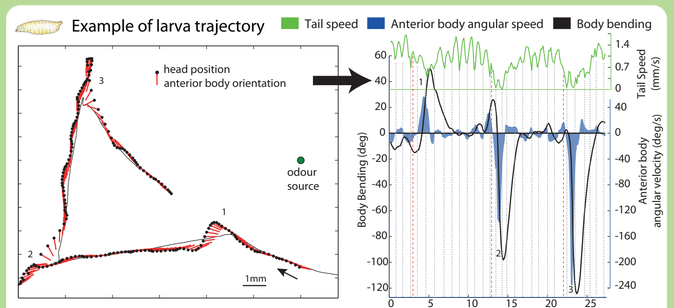


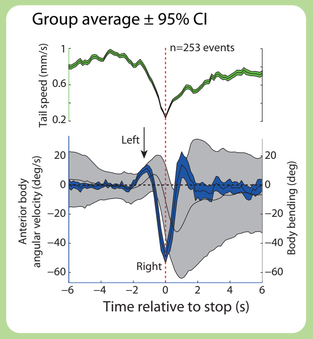
We embodied this hypothesis into simple agent based simulations

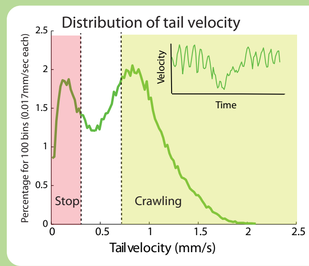


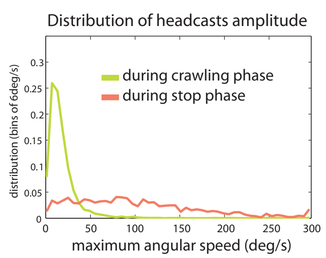


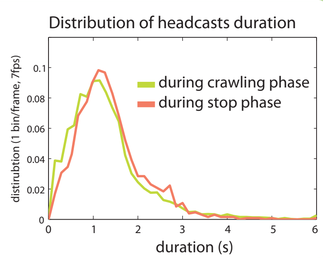
Both small and large headcasts share the same underlying oscillatory rhythm







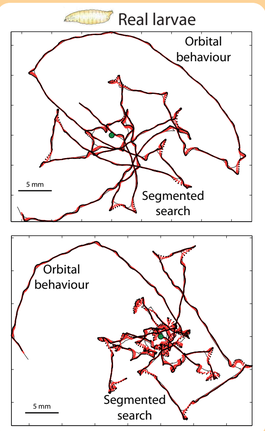




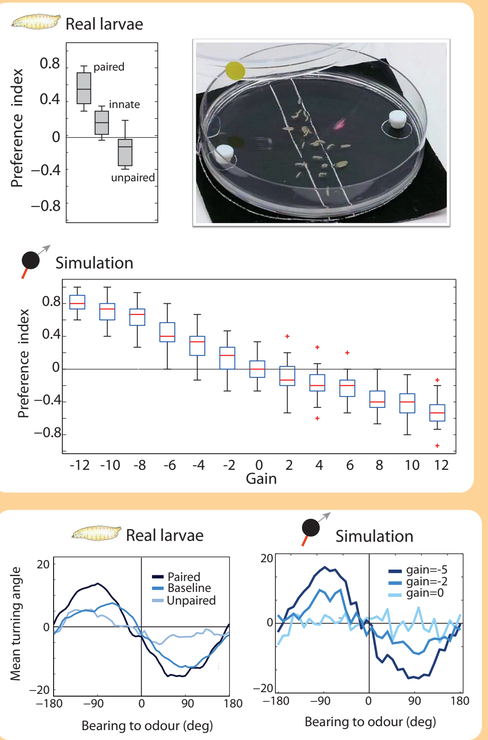
Hypothesis

Taxis in larvae results from a continuous modulation of ongoing left-right turning oscillations

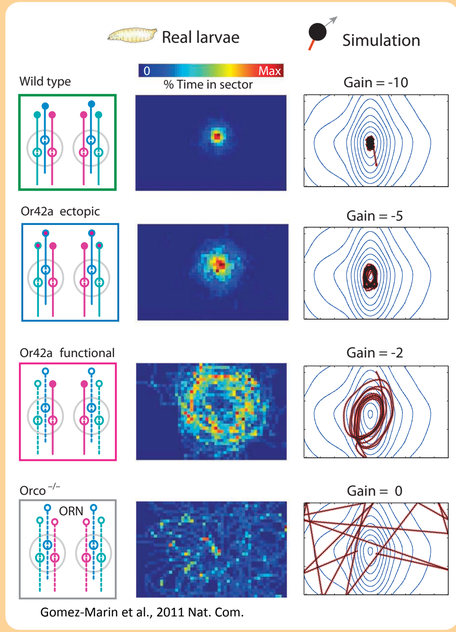
The simulation captures taxis trajectory signatures



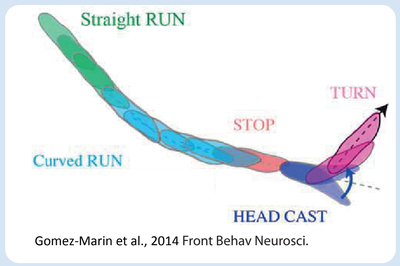
Learning as a simple change in gain



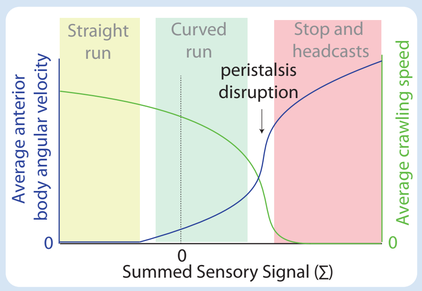
Stronger sensory inputs = stronger gain



No need for 'decision making'. Seemingly discrete actions spontaneously emerge



Gomez-Marin et al., 2014 Front Behav Neurosci.



A simple solution for combining multiple modalities along both sensory and memory pathways